

CLAIMS

What is claimed is:

5
Sub
Out
1.

1. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for constructing predictive models that can be used to make predictions even when the values of some or all inputs are missing or are otherwise unknown, the method steps comprising:

- 10
- (1) presenting a collection of training data comprising examples of input values that are available to the model together with the corresponding desired output value(s) that the model is intended to predict;

and

- 20
- (2) generating a plurality of subordinate models, that together comprise an overall model, in such a way that:

- 25
- a) each subordinate model has an associated set of application conditions that must be satisfied in order to apply the subordinate model when making predictions, the application conditions comprising

- 30
- i) tests for missing values for all, some, or none of the inputs,

5

10

[illegible]

25

30

Y0998-256

5 (2) each leaf of the tree corresponds to a subordinate model whose application conditions are defined by the conjunction of the tests along the branches that lead from the root node of the tree to the leaf node;

10 (3) the root node of the tree corresponds to a subordinate model whose application conditions consist of missing-value tests for the data fields mentioned in the tests associated with the tree branches that emanate from the root node;

and

15 (4) each interior node of the tree other than the root node corresponds to a subordinate model whose application conditions are defined by the conjunction of the tests along the branches that lead from the root node of the tree to the interior node, together with missing-value tests for the data fields mentioned in the tests associated with the tree branches that emanate from the interior node.
20